



DEPARTMENT OF THE ARMY
PACIFIC OCEAN DIVISION, U.S. ARMY CORPS OF ENGINEERS
FORT SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

CEPOD-PDC

22 JUN 2011

MEMORANDUM FOR COMMANDER HONOLULU ENGINEER DISTRICT (CEPOH-PP-C/ATHLINE CLARK), BUILDING 230, FORT SHAFTER, HI 96858-5440

SUBJECT: Review Plan Approval for the Masefau, American Samoa, Shore Protection Project Rehabilitation Plans and Specifications Package

1. The enclosed Review Plan for the Masefau, American Samoa, Shore Protection Project Rehabilitation Plans and Specifications Package has been prepared in accordance with EC 1165-2-209, Civil Works Review Policy, dated 31 January 2010. The Pacific Ocean Division is the lead office to execute this Review Plan, which does not include Type II Independent External Peer Review.
2. I approve this Review Plan. It is subject to change as circumstances require, consistent with project development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution will require new written approval from this office.
3. The point of contact for this memorandum is Mr. Russell Iwamura, Senior Economist, Civil Works Integration Division, at 808-438-8859 or email Russell.K.Iwamura@usace.army.mil.

FOR THE COMMANDER:

A handwritten signature in black ink, appearing to read "J. Bersson", written over a horizontal line.

JAMES L. BERSSON, P.E., SES
Director, Regional Business

Encl
as

REVIEW PLAN

**Masefau, American Samoa
Shore Protection Project Rehabilitation**

For

Plans and Specifications Package for Construction Contract

Honolulu District

**MSC Approval Date: June 22, 2011
Last Revision Date: June 9, 2011**



**US Army Corps
of Engineers ®**

REVIEW PLAN

**Masefau, American Samoa
Shore Protection Project Rehabilitation**

**For
Plans and Specifications Package for Construction Contract**

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1. PURPOSE AND REQUIREMENTS

a. **Purpose.** The Review Plan defines the scope and level of peer review for the plans and specifications for the rehabilitation of the Masefau Shore Protection Project, American Samoa. The repairs include replacing and repairing the existing splash apron and other associated activities to restore the structure to as-built conditions. The non-federal sponsor is the American Samoa Department of Public Works, but the project will be funded 100% under the U.S. Army Corps of Engineers (USACE) Civil Works PL 84-99 assistance program. Therefore the project scope is limited to rehabilitation and repair of damages to the shore protection structure to its pre-existing condition. No project modifications are included in this project. Design is limited to utilizing information and details from the original as-built design to establish desired lines, elevations, and cross sections. Project specifications will be updated to reflect current uniform federal guidelines specification sections but will be limited to the minimum required to ensure the project is buildable and biddable. This review plan was developed based on the USACE Planning Center of Expertise (PCX) template dated October 12, 2010.

b. References.

- (1) Engineering Circular (EC) 1105-2-412, Assuring Quality of Planning Models, 31 March 2011
- (2) EC 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (3) Engineering Regulation (ER) 1110-2-12, Quality Management, 30 Sep 2006
- (4) ER 5-1-11, Management USACE Business Process, 1 Nov 2006
- (5) ER 1110-1-8152, Engineering and Design – Professional Registration, 08 Aug 1995
- (6) ER 1110-1-8155, Engineering and Design – Specifications, 10 Oct 2003
- (7) ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
- (8) ER 1110-2-1302, Engineering and Design Civil Works Cost Engineering, 15 Sep 2008
- (9) USACE Honolulu District Civil Works International Organizations for Standards (ISO) Protocol (CEPOH-C) CEPOH-C.10801.0, Technical and Quality Review
- (10) CEPOH-C.10201.0, Biddability, Constructability, Operability, Environmental (BCOE) Review
- (11) CEPOH-C.12203.0, Civil Works Program – Independent Technical Review
- (12) CECW-P Policy Memorandum #1, Subject: Continuing Authority Program Planning Process Improvements, Jan. 19, 2011
- (13) Project Management Plan, PL 84-99 Rehabilitation of Damaged Shore Protection Project, Masefau, Tutuila, American Samoa
- (14) All applicable environmental laws and policies

c. **Requirements.** This Review Plan was developed in accordance with EC 1165-2-209 and CECW-P Policy Memorandum #1, which establishes the comprehensive life-cycle review policy for Civil Works projects from initial planning, through design, construction, and operation & maintenance, providing procedures for ensuring the quality and credibility of USACE decision, implementation, and operations and maintenance documents and other work products through independence of reviews. The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR) of two types, and Policy and Legal Compliance Review.

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. Per EC 1165-2-209, the MSC shall serve as the RMO for work products other than decision documents. Based on

coordination with the Pacific Ocean Division (POD), since the primary work product subject to this Review Plan is an implementation document (plans and specifications) with a Categorical Exclusion expected to fulfill the NEPA requirement, the RMO for the peer review effort described in this Review Plan is POD.

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) as needed to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies.

3. STUDY INFORMATION

- a. **Decision Document and Work Products.** The decision document for this PL 84-99 rehabilitation project was the Project Information Report, Rehabilitation of Damaged Shore Protection Project, Masefau, Tutuila, American Samoa (revised 19 April 2010), which was approved by POD on 6 May 2010. The work products subject to this Review Plan include the plans, specifications, construction contract documents, and NEPA documentation to address damages to the shoreline revetment in Masefau from the September 29, 2009 American Samoa earthquake and tsunami. This rehabilitation project falls under the categorical exclusion in paragraph 9.a of ER 200-2-2. Accordingly, in the absence of extraordinary circumstances, this project will not require the preparation of any more intensive NEPA documentation.
- b. **Study/Project Description.** The Masefau Area Shore Protection Project is located on the narrow coastal plain at the head of Masefau Bay, about five miles northeast of Pago Pago, on the northern side of the island of Tutuila (Figure 1). The sole access road to Masefau runs along the seaward edge of the village within 20 feet of the shoreline (Figure 2). The project was authorized under the authority of Section 14 of the Flood Control Act of 1946 (Public Law 79-526), as amended and constructed in 1991. The project suffered significant damage to the extent that a 20-year return period storm event is expected to cause the structure to fail and result in shoreline erosion that would likely damage the existing road and school. The repairs will be limited to rehabilitation of the structure to pre-tsunami conditions that will restore adequate functioning of the project. The project was originally rated as providing a 50-year level of protection and, if restored to its pre-storm condition, Honolulu District (POH) coastal engineers believe it will once again provide a 50-year level of protection. Regardless of whether the repairs are made, the project is not designed to reduce damages associated with any storm 50-years or greater in frequency.

The proposed rehabilitation plan consists of removing and replacing the existing splash apron that has been washed out and restoring splash apron to its original as-built design elevation and slopes with 50- to 150-pound stones from station 0+20 to 4+20 extending through the southern tie back section. Recovered splash apron stones weighing more than 50 pounds may be reused to repair this section provided that at least 50% of the splash apron armor stones are greater than 75 pounds. The existing 23-foot northern tieback section and revetment from station 0+00 to 0+20 will be removed and replaced to its original as-built design elevations and slopes. Stones that meet requirements specified in the Typical Revetment Detail may be reused. An area of dislodged armor stones around station 0+46 will be reset to original as-built conditions. Existing drainage section near station 1+00 will be cleaned out and restored to original as-built conditions with existing materials. The proposed rehabilitation plan is shown in Figures 3.

According to the original authorizing document dated January 1987, between the years 1978 and 1985, prior to the construction of the revetment, numerous events resulted in damages requiring repair. For the seven events that occurred over that period, damages at current price

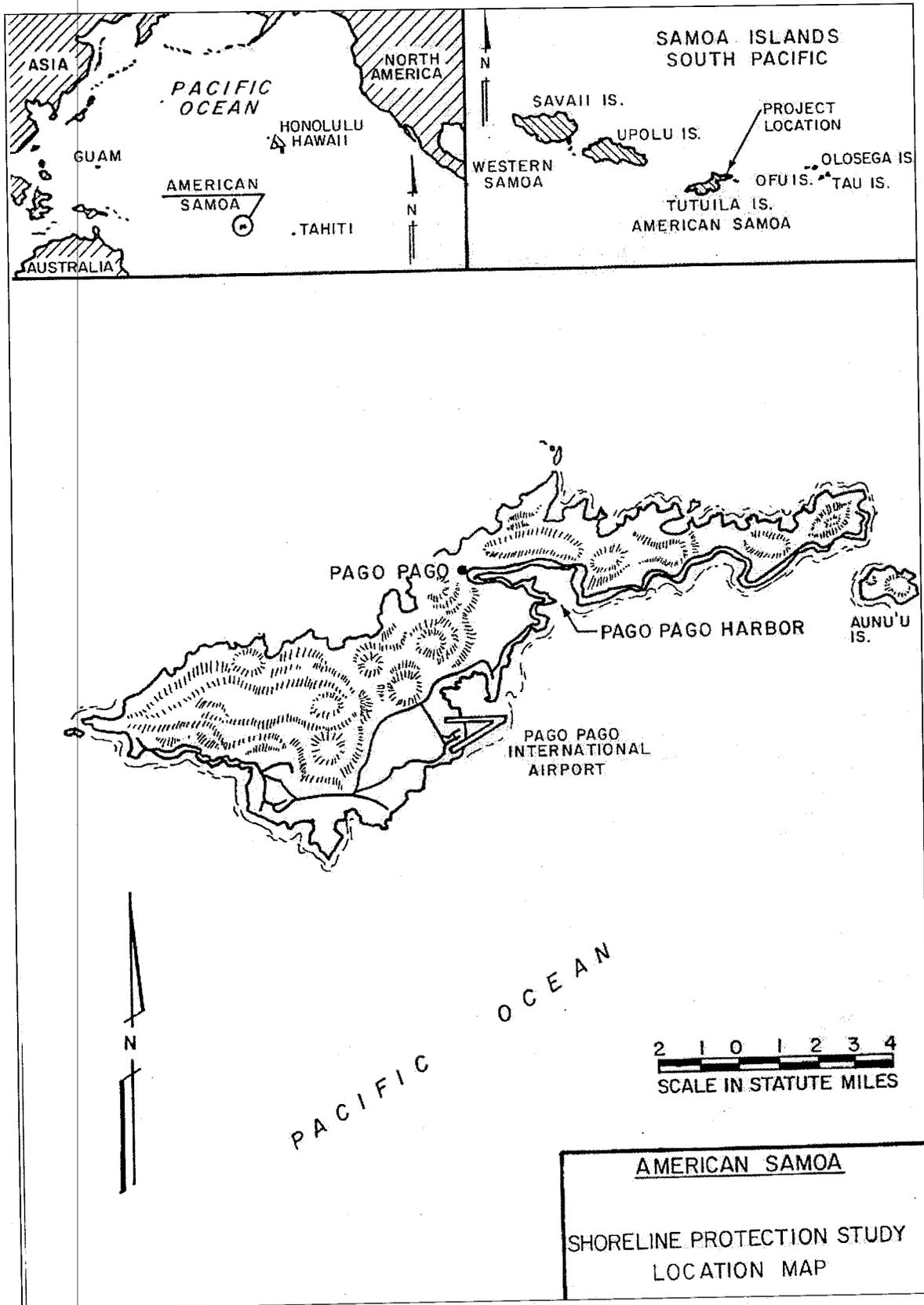


Figure 1. Project location map.

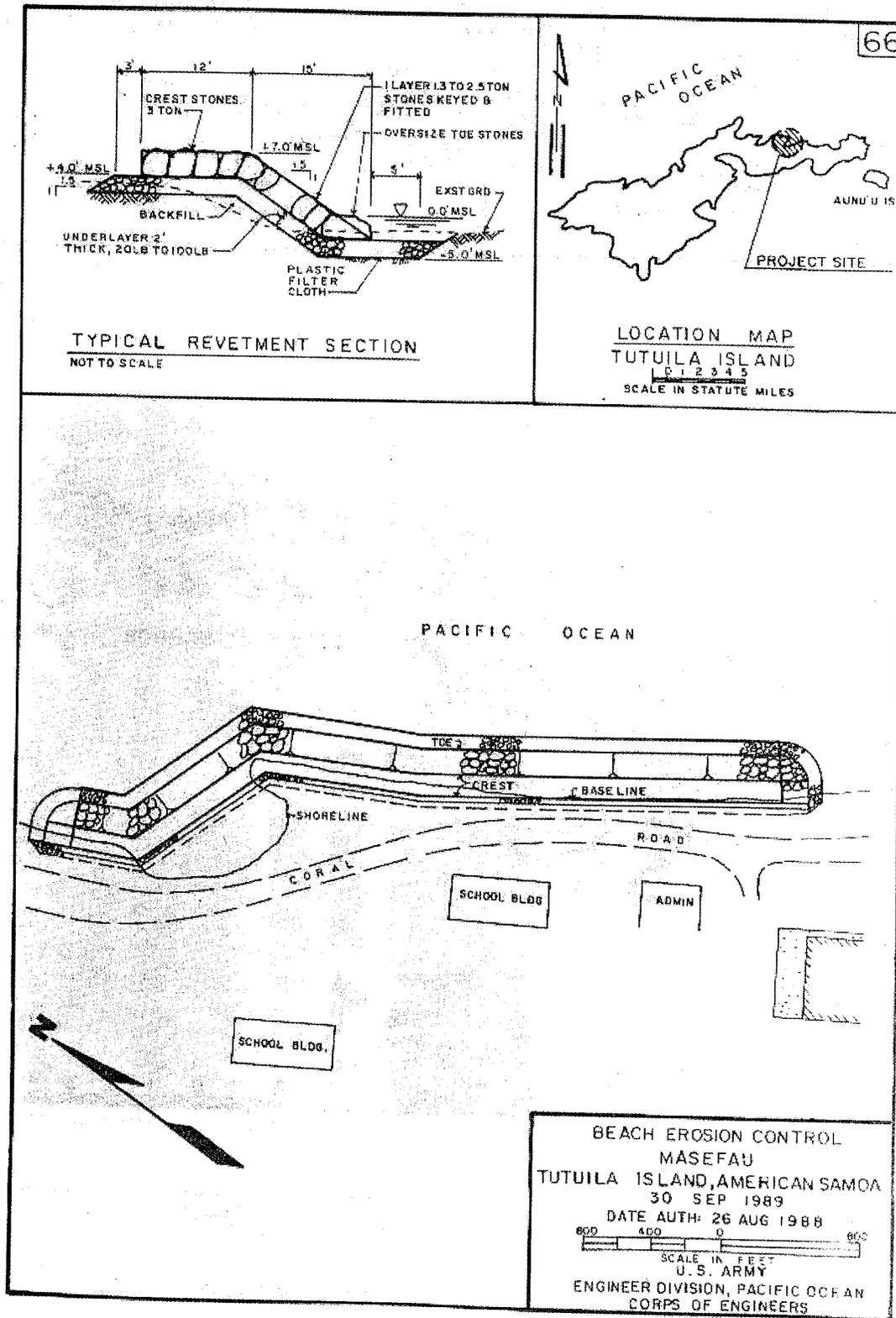
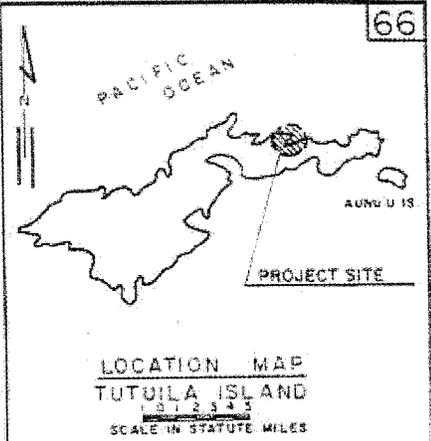
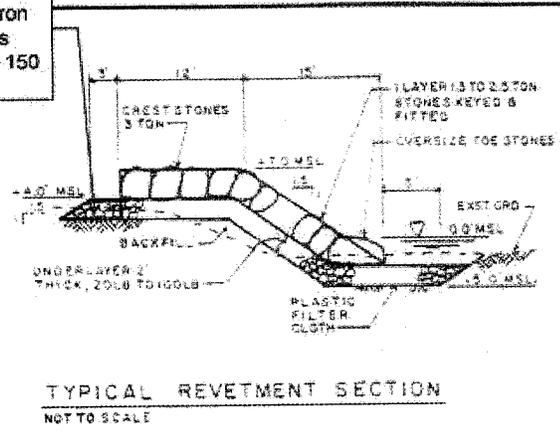
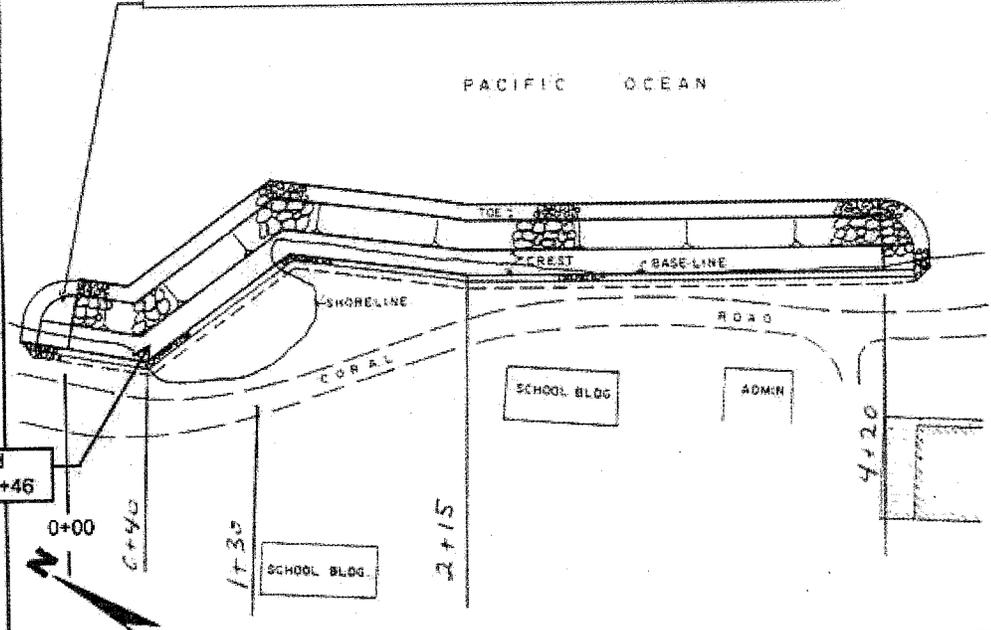


Figure 2: Masefau Shore Protection Project

Remove and replace existing splash apron to lines and grades show with 50 lb to 150 lb stones



Remove and replace existing lieback section from Sta -0+20 to Sta 0+00.
Remove and replace existing revetment section from Sta 0+00 to Sta 0+20 repair to lines and grades shown in Typical Revetment Section. Lock revetment section at Sta 0+20 into existing revetment



Replace dislodged armor stone Sta 0+46

BEACH EROSION CONTROL
MASEFAU
TUTUILA ISLAND, AMERICAN SAMOA
30 SEP 1989
DATE AUTH: 26 AUG 1988
800 400 0 800
SCALE IN FEET
U.S. ARMY
ENGINEER DIVISION, PACIFIC OCEAN
CORPS OF ENGINEERS

Figure 3: Proposed Site Repair Plan

levels ranged from about \$66,000 to \$132,000 per event. However, since the project has been in place, there has been no recorded history of any damages sustained in the area until the September 2009 tsunami. As evidenced by the tsunami, potential for catastrophic damage still exists. The 2009 event also caused the first significant damage to the project since its construction. These hydraulic impacts of this event threaten the ability of the project to protect against future storm events leading to an increase in erosion and a higher risk of project failure. The preliminary project cost estimate for the repair effort is \$283,000.

- c. **Factors Affecting the Scope and Level of Review.** The objective is to restore the existing shore protection project so that it provides the originally intended protection to the sole access road to Masafau and school. Because of the limited project scope no alternative design or project formulation plan is being considered. In its current disrepair the shore protection project is susceptible to additional damage from smaller events, therefore not performing as was originally designed (Figure 2). This project will restore the original 50-year design level of protection and does not provide any upgrades or changes to its purpose. Although a plans and specifications package is required, the scope of review is limited to the design package and satisfying the NEPA requirements to construct the repairs.
- d. **In-Kind Contributions.** There are no in-kind contributions.

4. DISTRICT QUALITY CONTROL (DQC).

- a. **General.** All civil works planning, engineering and O&M products (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. For other work products a case specific risk informed decision shall be made as to whether ATR is appropriate. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). Honolulu District as the home district shall manage DQC. Documentation of DQC activities is required and will be in accordance with the District Quality Management Plan of Honolulu District and Pacific Ocean Division (POD) as the home Major Subordinate Command (MSC).
- b. **Documentation of DQC.** Review comments, evaluations (responses to comments), and response/action taken for each comment from the district quality review of the NEPA document will be available in a spreadsheet format developed by the Honolulu District in accordance with the District Quality Management Process. A memorandum of completion of DQC on each civil works product will be maintained in the project files.

The DrChecks computer-based database will be used to monitor and track review comments and subsequent actions from the design review and biddability, constructability, operability and environmental (BCOE) review of the plans and specifications package. A BCOE certification document signed by the Chief, E&C and the Chief of Construction will be forwarded to the Contracting Officer, and copy furnished to the Project Manager.

- c. **Products to Undergo DQC.** The following products will undergo DQC.
- Review Plan
 - Plans and Specifications Package
 - Categorical Exclusion Documentation
- d. **Required DQC Expertise.** The District Quality Management Plan does not specify a particular level of expertise required for the reviewers; however it does require that the review be performed by a

qualified person or team not affiliated with the development of the products. The following expertise is needed for the DQC. Where practicable, individuals that can meet multiple requirements will be used to reduce cost and increase efficiencies.

- Environmental Protection Specialist
- Real Estate Specialist
- Cost Engineer
- Civil Engineer with coastal engineering expertise

5. AGENCY TECHNICAL REVIEW (ATR)

a. **General.** ATR is mandatory for all decision and implementation documents (including supporting data, analyses, environmental compliance documents, etc.). For other work products a case specific risk informed decision shall be made as to whether ATR is appropriate. The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. The RMO for ATR for CAP projects may be the home MSC in lieu of a National Planning Center of Expertise (PCX). The ATR team lead will be from outside the home MSC unless the review plan justifies an exception and is explicitly approved by the MSC Commander.

b. **Factors Considered in Determining ATR Review.** The project will not require ATR due to the following factors:

- The subject of this Review Plan, the plans and specifications package, is not a decision document.
- Plans and Specifications are implementation documents; however ATR will not be performed in this case because of the limited nature of the work to be done. The project involves rehabilitating/repairing the portions of the shore protection project damaged by the 29 September 2009 tsunami back to its pre-tsunami state.
- The project involves the rehabilitation/repair of damaged portions of shore protection, resulting from the 29 September 2009 tsunami. Design consists of identifying areas to be rehabilitated and the finish cross-section which reflects the original design. Specifications will also be prepared to convey material and quality requirements for the repair work. Design does not involve modification of any features from its original configuration, features, etc. Therefore, although this project includes a design, the design is very limited and only reflects restoration of damaged features back to its as-built condition.
- No alternatives will be evaluated for this portion of the project.
- No recommendations are included in the documents.
- The project does have a formal cost estimate, since the repair will be contracted out as a construction contract and the contract amount is anticipated to be over \$25,000 an independent government estimate is required.
- This project is a federal action, therefore will require consideration under NEPA. As an action to rehabilitate a completed Corps project, this project is covered by the categorical exclusion in paragraph 9.a of ER 200-2-2, and in the absence of extraordinary circumstances, no additional NEPA documentation is required.
- There will be no impacts to a structure or feature of a structure whose performance involves potential life risks.
- The consequences of non-performance are not applicable. The original structure was performing as formulated. Non-performance of this repair project would result in the structure remaining in

its current state of disrepair, which makes it more susceptible to additional damages from future storm wave actions.

- The project will support an investment of public monies. The repair is 100% funded by PL 84-99 Assistance. Investment of public money for the repair of the structure is justified. Masefau shore protection protects the only roadway access into or out of the village. This roadway is the only means of transportation and a lifeline for residents.
- The products for review do not support a budget request.
- There is no change in operation of the facility or function.
- Minor ground disturbances are anticipated during the repairs.
- No special features will be affected.
- It does not trigger a regulatory permitting under Section 404. Further analysis is required for NPDES for construction activities over 1 acre.
- No hazardous waste and/or disposal of materials will be generated as a result of the activities.
- There is no reliance on local authorities for inspection/certification of utility systems.
- No controversy surrounding the Federal action associated with this repair is expected.

c. **Products for Review.** Not applicable.

d. **Documentation of ATR Review.** Not applicable.

6. **INDEPENDENT EXTERNAL PEER REVIEW (IEPR)**

a. **General.** IEPR may be required on any civil works product that undergoes DQC and ATR under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- **Type I IEPR.** Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.
- **Type II IEPR.** Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

- b. Decision on IEPR.** Type I IEPR is not appropriate for the Masefau Shore Protection Project for a number of reasons:
- The subject of this Review Plan, the plans and specifications package, is not a decision document.
 - The plans and specifications package is an implementation document with review managed by the MSC.
 - The constructed project will not pose a significant threat to human life, safety or the environment.
 - Project costs are under \$45,000,000.
 - The American Samoa Governor has not requested an IEPR.
 - The Chief has not determined that the project is controversial due to significant public dispute.
 - The project is not likely to have a significant adverse impact on environmental, cultural, or other resources.

Type II IEPR, Safety Assurance Review, will not be conducted for the Masefau Shore Protection project because the repair of the breakwaters does not pose a significant threat to human life.

- c. Products for Review.** Not applicable.
- d. Required IEPR Panel Expertise.** Not applicable.
- e. Documentation of IEPR.** Not applicable.

7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents. The NEPA Categorical Exclusion documentation will undergo Policy and Legal Compliance Review.

8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION

For CAP projects in general, ATR of the cost estimate will be conducted by pre-certified district cost personnel within the region or by Walla Walla Cost DX. The pre-certified list of cost personnel has been established and is maintained by the Cost DX. The cost ATR member will coordinate with the Cost DX for execution of cost ATR and cost certification. The Cost DX will be responsible for the final cost certification and may be delegated at the discretion of the Cost DX. For this particular project, only DQC will be conducted on the cost estimate due to the limited extent of the repairs.

9. MODEL CERTIFICATION AND APPROVAL

- a. General.** EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes

of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

- b. **Planning Models.** No Planning Models will be used during development of the plans and specifications package.
- c. **Engineering Models.** No Engineering Models will be used during development of the plans and specifications package. The design is based on the original as-built, and is a repair of an existing structure to original as-built conditions.

10. REVIEW SCHEDULES AND COSTS

- a. **DQC Schedule and Cost.** The DQC for the Masefau Shore Protection Project plans and specifications for the repairs will be managed by the Project Managers and coordinated by Honolulu District Civil Works Technical Branch (CEPOH-EC-T). The Honolulu District will outline required expertise, cost, and coordinate with POD as needed. The total cost of the DQC is estimated at \$10,000. The general schedule for the DQC is as follows:

MILESTONES	DATE or DURATION (Calendar Days)
75% documents complete	May 2011
75% DQC review complete	21 days
75% PDT backcheck complete	7 days
90% documents complete	14 days
90% DQC review complete	14 days
90% PDT backcheck complete	4 days
Final documents complete	7 days
DQC certification	3 days

- b. **ATR Schedule and Cost.** Not applicable.
- c. **IEPR Schedule and Cost.** Not applicable.
- d. **Model Certification/Approval Schedule and Cost.** Not applicable.

11. VALUE ENGINEERING/VALUE MANAGEMENT. Compliance with the ER 11-1-321 Change 1 – Value Engineering (PMBP REF 8023 G – Value Management Plan) will be verified.

12. DATA MANAGEMENT PLAN. Compliance with PMBP requirement to develop a Data Management Plan (PMBP REF 9270G) will be verified.

13. PUBLIC PARTICIPATION

During the preparation of Plans and Specifications for the repairs to the Masefau Shore Protection Project, no formal public meetings are scheduled to be held. However, American Samoa government officials from the Department of Public Works will be updated on the progress of PDT.

Public, professional, and scientific societies will not be asked to nominate potential peer reviewers. This Review Plan, following approval by the MSC Commander, will be posted on the POH web page for public information and review. Any comments received from the public will be considered in future versions of the Review Plan and, as appropriate, in other project actions.

14. REVIEW PLAN APPROVAL AND UPDATES

The Pacific Ocean Division (POD) is responsible for approving this Review Plan. POD's approval reflects vertical team input (involving POH, POD and HQUSACE members) as to the appropriate scope and level of review for the plans and specifications. Like the PMP, the Review Plan is a living document and may change as the study progresses. POH is responsible for keeping the Review Plan up-to-date. Minor changes to the review plan since the last POD approval will be documented in Attachment 4. Significant changes to the Review Plan (such as changes to the scope and/or level of review) must be re-approved by POD following the process used for initially approving the plan. The latest version of the Review Plan, along with POD's approval memorandum, will be posted on the POH webpage. The latest Review Plan will also be provided to POD (RMO and home MSC).

15. REVIEW PLAN POINTS OF CONTACT

Questions and/or comments on this review plan can be directed to the following points of contact:

- Honolulu District POC: POH Project Manager(s), Athline Clark/Sharon Ishikawa, (808) 438-2264/ 438-2249.
- Pacific Ocean Division POC: POD Senior Economist, Russell Iwamura, (808) 438-8859.

ATTACHMENT 1: TEAM ROSTERS

Masefau Shore Protection Rehabilitation Project PDT

The Project Delivery Team is comprised of the following individuals:

Project Manager	Athline Clark/Sharon Ishikawa
Environmental Resources	Mark Arakaki
Real Estate Specialist	Mike Sakai
Cost Engineer	Tracy Kazunaga
Technical Lead	Justin Goo
Design/Specifications	Justin Goo
Value Engineering Officer	Elton Choy
Contracting Officer	Joy Sakamoto
Contracting Specialist	Sonia Boyd
Office of Counsel	Lindsey Kasperowicz
Local Sponsor	Faleosina Voigt, Department of Public Works, Government of American Samoa

Masefau Shore Protection Rehabilitation Project DQC Team

The Honolulu District Quality Review Team is comprised of the following individuals from the following offices:

DQC Team Leader	CEPOH-PP-C
Environmental Resources	CEPOH-PP-E
Coastal Engineer	CEPOH-EC-T
Civil Engineer	CEPOH-EC-Q
Project Engineer	CEPOH-EC-CF
Cost Engineer	CEPOH-EC-S

Vertical Team

The Masefau Shore Protection Rehabilitation Project Vertical Team is composed of the following individuals:

POH, Project Manager(s)	Athline Clark/Sharon Ishikawa
POH, Technical Lead	Justin Goo
POH, Chief Civil Works Branch	Derek Chow
POD Civil Works Planning, Team Leader	Linda Hihara-Endo
POD RMO, Senior Economist	Russell Iwamura
HQ POD RIT, Chief	Lloyd Pike
HQ POD RIT, Civil Deputy	Sharon Wagner
HQ POD RIT, Civil Works Planner	Gib Owen

ATTACHMENT 2: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
ATR	Agency Technical Review	PDT	Project Delivery Team
DQC	District Quality Control/Quality Assurance	PED	Preconstruction Engineering and Design
DX	Directory of Expertise	PMP	Project Management Plan
EC	Engineer Circular	POD	Pacific Ocean Division
EIS	Environmental Impact Statement	POH	Honolulu District
ER	Engineer Regulation	QA	Quality Assurance
HQUSACE	Headquarters, U.S. Army Corps of Engineers	QC	Quality Control
IEPR	Independent External Peer Review	QMP	Quality Management Plan
ITR	Independent Technical Review	RIT	Regional Integration Team
MSC	Major Subordinate Command	RMC	Risk Management Center
NEPA	National Environmental Policy Act	RMO	Review Management Organization
NPDES	National Pollutant Discharge Elimination System	SAR	Safety Assurance Review
O&M	Operation and maintenance	USACE	U.S. Army Corps of Engineers
PCX	Planning Center of Expertise	WRDA	Water Resources Development Act

ATTACHMENT 3: SAMPLE STATEMENT OF TECHNICAL REVIEW

CEPOH-EC-Q (415-10i)

MEMORANDUM FOR

SUBJECT: COMPLETION OF INDEPENDENT TECHNICAL REVIEW

The District has completed the ITR of *(project name and location)*. Notice is hereby given that an Independent Technical Review, that is appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the Quality Control Plan. During the Independent Technical Review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions; methods, procedures, and material used in analyses; alternatives evaluated; the appropriateness of data used and level obtained; and reasonableness of the result, including whether the product meets the customer's needs consistent with law and existing Corps policy. The Independent Technical Review was accomplished by the Regional Technical Center. All comments resulting from the ITR have been resolved.

KEVIN K. ARAKI, P.E.
Chief, Regional Technical Center

(Date)

Project Manager

(Date)

CERTIFICATION OF INDEPENDENT TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows:

(Describe the major technical concerns, possible impact, and resolution)

As noted above, all concerns resulting from independent technical review of the project have been fully resolved.

TODD C. BARNES, P.E.
Chief, Engineering & Construction Division

ATTACHMENT 4: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number